

Claims

1. Input multiplexer (IMUX) for splitting a broad frequency band into a series of narrower frequency channels by means of a bandpass filter per frequency channel, each filter having an input and an output, characterized in that

high circuit order bandpass filters with a circuit order of more than 6 have zero positions in the transmission function on the imaginary frequency axis in the vicinity of the passband for improving the flank steepness and a low variation in the group running time within the pass band, achieved by an external running time equalizer or further zero positions in the transmission function with a finite real part or a combination hereof, with each of these inputs coupled to a low loss bus bar (1), which consists of conducting pieces of optimized length.

2. The input multiplexer of claim 1, characterized in that the bus bar (1) connects band pass filters non-contiguously.

3. The input multiplexer of claim 1, characterized in that the busbar(1) connects bandpass filters contiguously.

4. The input multiplexer of one of the preceding claims, characterized in that the bandpass filter and the busbar (1) are constructed in the waveguide technique, the coaxial technique, the dielectric technique and/or the planar technique.

5. The input multiplexer of one of the preceding claims, characterized in at the geometry of the low loss busbar (1) is combline or herringbone.

6. The input multiplexer of one of the preceding claims, characterized and that the bandpass filters consist of resonators in the single mode, dual mode, triple mode and/or in the quadruple mode.

7. The input multiplexer of one of the preceding claims, characterized in that the filters, with respect to their center frequency, are connected in any sequence with the busbar (1).

8. The input multiplexer of one the preceding claims, characterized in that devices for equalizing the bandpass filters and/or the busbar are present

9. The multiplex of one the preceding claims, characterized in that the individual multiplexes are connected over hybrid couplers and/or power splitters.

10. The multiplexer of one of the preceding claims, characterized in that the overall arrangement of the multiplexer covers all channels of an IMUX.

11. The multiplex of one of the preceding claims, characterized and that the filter functions are symmetrical or asymmetrical.